AMENDMENTS TO THE CLAIMS

A detailed listing of all claims that are, or were, in the present application, irrespective of whether the claim(s) remains under examination in the application are presented below. The claims are presented in ascending order and each includes one status identifier. Those claims not cancelled or withdrawn but amended by the current amendment utilize the following notations for amendment: 1. deleted matter is shown by strikethrough for six or more characters and double brackets for five or less characters; and 2. added matter is shown by underlining.

1. (Currently Amended) A method of depositing a top clad layer for an optical waveguide of a planer lightwave circuit, the method comprising the steps of:

a) providing a flow rate for a Ge dopant gas for a SiO_2 top clad layer deposition;

b) providing a flow rate for a P dopant gas for the top clad layer deposition;

c) providing a flow rate for a B dopant gas for the top clad[[ding]] layer deposition; and

d) controlling the flow rates for the Ge dopant gas, P dopant gas and B dopant gas to form the top clad layer, to prevent the formation of crystallization areas within the top clad layer.

2. (Original) The method of claim 1, wherein the controlling of the flow rates for the Ge dopant gas, the P dopant gas, and the B dopant gas is configured to increase refractive index stability of the top clad layer across an anneal temperature range from 900C to 1050C.

3. (Original) The method of claim 1, wherein the controlling of the flow rates for the Ge dopant gas, the P dopant gas, and the B dopant gas is configured to reduce a number of deposition and anneal cycles required for depositing the top clad layer. layer.

4. (Original) The method of claim 1, wherein the B dopant gas comprises B_2H_6 or $B(OCH_3)_3$ tetramethyl borate (TMB).

5. (Original) The method of claim 1, wherein the Ge dopant gas comprises GeH_4, Ge_2H_6 or $Ge(C_2H_5O)_4$.

6. (Original) The method of claim 1, wherein the P dopant gas comprises PH_3 or $P(CH_3O)_3$ tetramethyl phosphite (TMP).

7. (Original) The method of claim 1, wherein steps a) through d) are used to form the top clad layer of an active planar lightwave circuit device.

8. (Currently Amended) A method of depositing a GeBPSG top clad layer for a planar lightwave circuit device, the method comprising the steps of:

a) providing a flow rate for a Ge dopant gas for a SiO_2 top clad layer deposition;

b) providing a flow rate for a P dopant gas for the top clad layer deposition;

c) providing a flow rate for a B dopant gas for the top clad[[ding]] layer deposition; and

d) controlling the flow rates for the Ge dopant gas, P dopant gas, and B dopant gas to form the top clad layer, thereby to reduce reducing the formation of crystallization areas within the top clad layer.

9. (Original) The method of claim 8, wherein the controlling of the flow rates for the Ge dopant gas, the P dopant gas, and the B dopant gas is configured to increase refractive index stability of the top clad layer across an anneal temperature range from 900C to 1050C.

10. (Original) The method of claim 8, wherein the controlling of the flow rates for the Ge dopant gas, the P dopant gas, and the B dopant gas is configured to reduce a number of deposition and anneal cycles required for depositing the top clad layer.

11. (Original) The method of claim 8, wherein the B dopant gas comprises B_2H_6 or $B(OCH_3)_3$ tetramethyl borate (TMB).

12. (Original) The method of claim 8, wherein the Ge dopant gas comprises GeH_4, Ge_2H_6 or $Ge(C_2H_5O)_4$.

13. (Original) The method of claim 8, wherein the P dopant gas comprises PH_3 or $P(CH_3O)_3$ tetramethyl phosphite (TMP).

14. (Original) The method of claim 8, wherein steps a) through d) are used to form the top clad of an arrayed waveguide grating planar lightwave circuit.

15. (Canceled)

16. (Canceled)

17. (Canceled)

Please add new claims 18-20 as follows:

18. (New) The method of claim 1 wherein the flow rate for the Ge dopant is controlled such that the Ge dopant is present in the top clad layer from about 1 percent by weight to about 5 percent by weight.

19. (New) The method of claim 1 wherein the flow rate for the P dopant and the B dopant are controlled such that the total weight percent of the P dopant and the B dopant in the top clad layer is greater than about 6.5 percent by weight.

20. (New) The method of claim 1 wherein the flow rate for the P dopant is controlled such that the P dopant is present in the top clad layer from about 0.5 percent by weight to about 2.5 percent by weight.